

# Perceived Vulnerability, Relapse Risk and Coping in Schizophrenia

## An Explorative Study\*

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**Summary.** Patients suffering from schizophrenia are faced with numerous adaptational demands as a consequence of their illness. Both directly perceived vulnerability and knowledge about precipitating factors deduced from the experience of recurrent relapses were assessed in a group of chronic schizophrenics. In addition, self-administered coping with symptoms and attempts to prevent relapses were explored. Most patients were aware of both aspects of vulnerability towards social-emotional and cognitive stressors and took various precautions to avoid relapse or to control symptoms. Results are discussed within the context of a theoretical model of coping with schizophrenia.

**Key words:** Schizophrenia – Coping theory – Subjective vulnerability – Prevention of relapse – Self-healing strategies – Control of symptoms

### Introduction

Research on the course of schizophrenia has yielded information about environmental influences on relapse rates. One such influence may be abrupt changes in the social environment induced by life events (Brown and Birley 1968). Apart from these sudden changes, the chronic, enduring strain of living in a family atmosphere of hostility, critical comments, and emotional overinvolvement of the relatives (high EE) has also been linked to episodes of schizophrenic illness (Brown et al. 1972; Leff and Vaughn 1980). The risk of relapse for patients in high EE homes is further increased when the patient has a high amount

of face-to-face contact with relatives and decreased by the protective effect of maintenance therapy with phenothiazines (Leff and Vaughn 1981; Leff et al. 1983).

The influence of these precipitating and protective factors on the course of illness can best be accounted for by a vulnerability stress model of schizophrenia (Zubin and Spring 1977; Nuechterlein and Dawson 1984; Zubin et al. 1985). According to Zubin the central dysfunction in schizophrenia is a persistently increased vulnerability towards (external or internal) stressors. In his model the outbreak of an acute episode of psychosis depends on the individual degree of vulnerability, the impact of the stressful trigger, and the amount of coping skills and support available. Recent research on schizophrenia has focused mainly on efforts to find markers of vulnerability (Zubin et al. 1985) and to identify stressful and protective factors.

Questions regarding how patients themselves deal with their illness and its psychosocial consequences, whether they are aware of a heightened irritability towards stressors and of the existence of precipitating factors for relapse, and what kind of coping strategies they develop have long been neglected by research.

As early as 1920 Mayer-Gross described different forms of attitudes of patients towards the experience of the psychosis passed through and their impact on the process of coping with the disease. Mueller (1930) discussed 'healing mechanisms' of schizophrenics as, for example, denial of the psychotic experience in a remitted stage, or in the case of persisting psychotic symptoms, suppression of delusions or ignoring hallucinated voices. Psychoanalytic authors (e.g., Freud 1911; Winkler 1954; Benedetti 1971) tend to interpret the psychotic reaction itself as an effort towards self-healing. Within the context of

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Scharfetter's 'Ego psychopathology' (1986) positive psychotic symptoms are to be considered as coping reactions of the patient facing the threat of weakening 'Ego strength'. In the psychotherapy literature numerous examples are given of how self-healing mechanisms can be used in the therapeutic process. Arieti (1974) describes how, contrary to the traditionally passive acquisition of insight, the patient learns how to work actively on the symptoms of his psychosis. Patients suffering from auditory hallucinations or ideas of reference will be taught how to identify triggering situations for these symptoms, how to control them, and how to identify the supposed conflicts behind the symptoms.

Whereas coping efforts of schizophrenics have long been established in the psychodynamic "psychoanalytic" literature, empirical research has only recently turned towards this subject. During the last few years observations on the coping behavior and self-healing strategies of schizophrenics have been made (Lange 1981; Boeker and Brenner 1983; Boeker et al. 1984). Falloon and Talbot (1981) explored coping strategies of patients with chronic auditory hallucinations. Breier and Strauss (1983) and Cohen and Berk (1985) reported efforts of psychotic patients to gain self-control over their symptoms.

Strauss et al. (1986) discussed various possibilities of patients taking an active role both in recovery as well as in deterioration of their condition. Basically they distinguished three levels of participation with treatment:

1. Compliance: following the clinician's orders, taking medications as prescribed and avoiding excessive stress
2. Training of coping skills: participating in psychosocial training programs (e.g., social skills training) aiming at improvement on a functional rather than a symptomatic level
3. The patient as a collaborator and innovator: goal setting, creative problem solving, and innovative collaboration by the patient himself.

This approach, although moving in the right direction, is still directed too much by the clinician's understanding of the patient's problems and his beliefs about what is good for the patient. It appeared interesting to us to learn how patients themselves experience their psychotic vulnerability and how they try to cope with it and with the symptoms of the psychosis. Therefore we chose an explorative approach for studying the coping mechanisms in schizophrenics, investigating the subjective experience and practice of coping with illness in patients with sufficient duration and experience of the disease. The results will be discussed within the frame of models of coping with illness.

## Models of Coping with Illness

Recent models of coping with illness (Heim et al. 1983) are based on results of stress and coping research. According to these concepts illness is regarded as a life crisis disrupting the patient's customary life style and setting forth basic adaptive tasks to which various coping strategies can be applied. This holds true especially for chronic diseases where the patient must deal not only with acute symptoms but is faced with more enduring problems like loss of key roles or assault on self-image and self-esteem. A new life style must be developed in order to accommodate successfully to the illness.

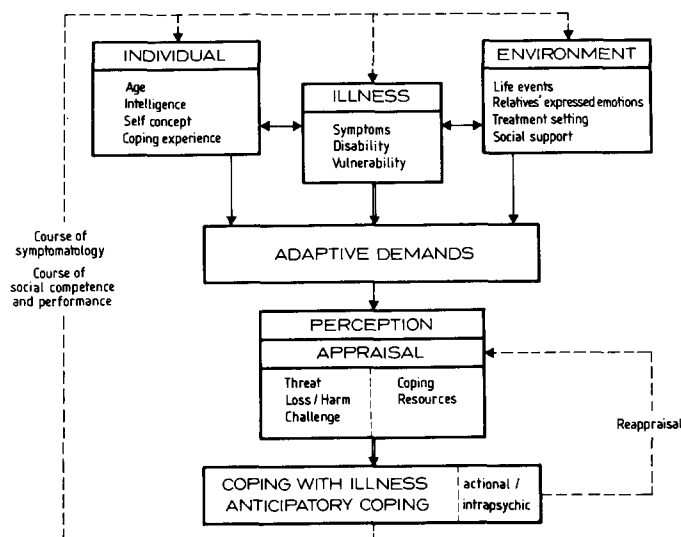
Lazarus and coworkers (Lazarus and Launier 1978; Roskies and Lazarus 1980) formulated a dynamic transactional model of coping, implying bidirectional relations between person and environment, with coping affecting both person and environment. Central to this model is the assumption that an event is not stressful per se but the significance of an event is determined by the meaning attributed to it by a process of cognitive appraisal. Primary appraisal can lead to judging the event as threat, loss/harm, or challenge. Secondary appraisal implies the judgement of available coping resources and options. Primary and secondary appraisal also determine the actual coping reactions which are classified according to their function in palliative (regulation of emotions) and instrumental (change of disturbed transaction with environment) coping.

In their crisis model of physical illness Moos and Tsu (1977) enumerated the various adaptive tasks to be dealt with by the patient. They distinguish three illness-related (A) and four general tasks (B):

- (A) 1. Dealing with pain and incapacitation
2. Dealing with the hospital environment and special treatment
3. Developing adequate relationships with professional staff
- (B) 4. Preserving reasonable emotional balance
5. Preserving a satisfactory self-image
6. Preserving relationships with family and friends
7. Preparing for an uncertain future.

Other important variables in the model are the factors determining the cognitive appraisal and the choice of specific coping responses. According to Moos and Tsu they fall into three categories: background and personal characteristics (age, intelligence, self-esteem, previous coping experiences), features of the physical and social environment (hospital setting, home milieu, social support), and illness-related factors (type and location of symptoms, pain, impairment). The type of adaptational demands is mainly determined by these illness-related variables. Bearing in mind Lazarus' and Moos and Tsu's concepts we developed a model of coping with schizophrenia (Fig. 1). To allow for the specific characteristics of this disease, we introduced the variable vulnerability among the illness-related factors. Anticipatory coping was added as an important feature of the coping process in preventing relapse.

For the study of coping efforts of chronic schizophrenics within the frame of such a model, several questions arise. Are chronic schizophrenics aware of their permanently heightened vulnerability towards stressors and the relapse risk associated with it? What kind of stressors or risk factors for relapse do they perceive? How do they cope with general and specific stressors, do they consciously apply anticipatory coping in order to prevent relapse? Which coping mechanisms are available to schizophrenics in dealing with psychotic symptoms and deficits? Is there a relationship between illness-related and personality variables and coping?



**Fig. 1.** Model of coping with schizophrenia

## The Study

**Subjects.** The subjects were 23 male and 14 female chronic schizophrenics, predominantly outpatients of the Psychiatry Department of the Central Institute of Mental Health, partly inhabitants of sheltered homes for psychiatric patients in Mannheim. To ensure that subjects had sufficient experience of illness, the minimum duration of illness was 3 years. Information on the course of illness was available for all patients (Table 1). All except 3 patients were receiving neuroleptic medication.

**Procedure.** A semi-structured interview was constructed to collect information on coping with illness. We asked about the patient's own experience of illness and subjective hypersensitivity

**Table 1.** Subjects: age, course of illness, ICD diagnoses, medication

	Median	Range
Age (years)	33	22–47
Duration of illness (years)	9	3–25
Number of hospitalizations	4	0–20
Months since discharge	17	0–189
Diagnosis (ICD)	<i>n</i>	(%)
295.0 Simplex	2	5.4
295.1 Hebephrenic	3	8.1
295.2 Catatonic	1	2.7
295.3 Paranoid	21	56.8
295.6 Residual	10	27.0
Medication		
None	3	8.1
Oral neuroleptics	20	54.1
Depot neuroleptics	14	37.8

towards stressors, dealing with symptoms and deficits, experiences of precipitating factors, and precautions for preventing relapse. The answers were analyzed by content analytical principles and the coping responses classified according to their form and function. In addition we assessed measures of self-esteem and control attributions by questionnaire (Frankfurter Selbstkonzeptskalen, Coping-Skala, Deusinger 1986) as well as data on personal anamnesis and history of illness. Parametric and nonparametric procedures were used for data analysis.

## Results

### Experience of Vulnerability

The question concerning the perception of subjective vulnerability and risk factors for relapse was answered positively by 30 out of 37 subjects; 7 subjects were convinced that no such risk existed for them. The number of reported risk factors increased with higher level of education ( $F(2.34) = 5.01$ ,  $P < 0.01$ ).

Basically two types of stressors were identified (Table 2): most frequently reported were social-emotional stressors. These included conflicts with relatives or friends as well as getting involved in close emotional relationships, both negative or positive. Not the quality but the degree of intensity was the relevant feature from the subject's point of view. Four subjects explicitly called 'to fall in love' a risk factor for a new episode of illness. The second class of potential stressors can be headed 'social cognitive' stressors. Into this category fell three kinds of situations which all seem to exceed the individual's information processing capacity in the sense of overstimulation in social situations. Psychological and physical strain included pressure of time at work, responsibility as a spouse or parent, hard physical exercise etc., in general, too many demands at once. Complex social interactions stood for the experience of being overwhelmed and unable to deal with complex and

**Table 2.** Experience of vulnerability ( $n = 37$  subjects)

Vulnerability factor	<i>n</i>	% of subjects
Interpersonal conflicts	17	46.0
Intense emotions in close relationships	7	18.9
Physical or psychological strain	8	21.6
Complex social interactions	7	18.9
Disruption of life rhythm	6	16.2
Social isolation	7	18.9
Miscellaneous	5	13.5
No relapse risk perceived	7	18.9

sometimes intensive social contacts on occasions like family gatherings, visits to the pub, or social events. In all these situations patients described problems of attention and concentration, e.g., difficulties in following a conversation when several people talk simultaneously. Disruption of life rhythm subsumed irregularities of the day-night rhythm (working shifts or late nights), disturbance of the daily routine or of the continuity of housing, work or social relations. Even small changes, especially if unpredictable, were experienced as threatening. Also apparently positive events like a planned holiday could figure as a stressor. A somewhat different kind of risk factor for relapse was described by a small group of 7 patients. Not the presence of a specific stressor but the absence of social stimulation when being on one's own for a longer period of time seemed to promote in the patient's own view further withdrawal into psychotic thoughts and experiences. Loss of sufficient control of reality was considered crucial to this retreat into an inner psychotic world. The absence of other persons prevented the testing of one's perceptions and experiences against reality.

#### *Preventive Strategies Against Relapse*

Analysis of data on the precautions taken by patients against relapse yielded three basic strategies (Table 3):

1. Various behavioral strategies were used for shielding off and protecting the individual from overstimulation. Into this class fell avoiding conflicts and emotional strain and refraining from overexertion either by active avoidance or by retreat from an already stressful situation. Another possible protection recognized by patients was the regular intake of medication. Some patients said they felt a marked increase in stress tolerance from neuroleptics. A strictly regulated life rhythm with avoidance of any major disturbances also seemed to shield against too much emotional strain and to reduce the experienced vulnerability and to protect against decompensation into relapse. The two following classes of protective strategies clearly demonstrate that prevention was not limited to reduction or avoidance of strain but also involved initiative and active coping.

2. The experience that lack of structure or stimulation can promote slipping into psychotic thoughts and perceptions led some patients to seek reliable social contacts of low emotional quality (professional and nonprofessional) and to look for some occupation (work or leisure activity). Thus, by engaging in activities of everyday life, they tried to counteract feelings of emptiness and to find a balance between over- and understimulation.

**Table 3.** Preventive strategies against relapse ( $n = 37$  subjects)

Coping strategy	<i>n</i>	% of subjects
Avoiding conflicts and emotional strain	16	43.2
Avoiding overexertion	13	35.1
Taking regular medication	10	27.0
Adhering to a regulated life style	9	24.3
Maintaining low emotional social contacts	15	40.5
Engaging in work or leisure activity	10	27.0
Intrapsychic coping	16	43.2
Can do nothing	3	8.1

3. Intrapsychic coping was another crucial part of the coping process. It served two purposes, on the one hand regulating emotions (palliative function, e.g., accepting and integrating the illness into the patient's biography and personal concept of life and encouraging oneself), on the other hand dealing with concrete problems arising as a consequence of the disease, e.g., planning a new professional career where the former job cannot be continued because of disabilities induced by the disease.

#### *Perception of and Dealing with Symptoms*

The following results on coping strategies with symptoms apply to both prodromal signs as well as to early psychotic symptoms. Analyses of the interview data resulted in identical coping reactions for prodromal signs and acute symptoms. At the occurrence of early signs only 6 patients felt helpless and unable to cope, whereas in the case of acute symptoms this desperate feeling was present in 14 subjects; 8 persons said they did not notice any early signs of the oncoming psychosis, but the majority were able to describe their individual prodromi. There seemed to be no fixed pattern which heralded a schizophrenic episode, but certain signs occurred more often than others. About equally frequent were uncharacteristic disturbances of well-being and vegetative functions (disturbed sleep or appetite, exhaustion, restlessness), affective and mood changes (anxiety, depressed or elevated mood), and mild psychotic symptoms (slight ideas of reference and persecution) (Table 4). Behavioral change (increased praying, withdrawal, hyperactivity) was reported by 6 patients, and thought disorders by only 2.

The most frequently reported strategy in dealing with prodromal signs and early symptoms (Table 5) was to ask for help. This meant contacting the family

doctor or the psychiatrist within or outside a hospital, a key person in the sheltered home, or a relative.

Besides asking for help subjects also reported some intrapsychic coping mechanisms. These were mainly reality testing and distancing from psychotic thoughts and experiences by rational control and internal dialogue. When experiencing the idea of reference that car number plates had suddenly assumed a personal significance, one female patient told herself that this was logically impossible, that the plates had never meant anything to her before and that she must have misinterpreted them, and so on. Other strategies concerned conscious efforts not to be influenced by hallucinatory voices, but to ignore them or to

argue with them. In addition to these cognitive coping strategies subjects reported increased religiosity, meditation, or simply identifying the symptoms as signs of a disease and waiting for them to recede. A small group said they had arranged with their doctor to take an extra dose of medication when experiencing the first signs of a new episode.

These results confirm that the majority of our schizophrenic patients perceived a certain hypersensitivity or intrapsychic instability towards intense emotional and aversive cognitive stimuli which might be one subjective aspect of vulnerability towards schizophrenia. The majority of these patients also realized after a sufficient duration of the disease another aspect of vulnerability, namely that relapses and smaller changes for the worse may be provoked by over- or understimulation. They tried to counteract by applying mostly appropriate preventive coping responses. A new psychotic episode was recognized by most patients at an early stage, often by non-specific prodromal signs. In this prepsychotic phase of the illness, adequate and presumably sometimes successful coping strategies were applied. Patients also tried to control manifest psychotic symptoms but realistically were aware of limited controllability of symptoms at the acute stage of the psychosis.

Thus, our findings seem to corroborate and to supplement considerably the clinical and psychotherapeutic experiences of the existence of differentiated and in many cases successful coping strategies of patients suffering from recurrent episodes of schizophrenia.

#### *Personal and Illness-Related Variables in Coping with Schizophrenia*

After describing and classifying the coping responses, our next step was to look for possible factors influencing coping behavior. We did not consider single coping responses but chose as the dependent variable the width of the coping repertoire. A wide spectrum of available coping responses is discussed by most au-

**Table 4.** Perception of prodromal signs ( $n = 37$  subjects)

Type of sign	<i>n</i>	% of subjects
Disturbance of vegetative functions	14	37.8
Affective changes	13	35.1
Mild psychotic signs	13	35.1
Behavioral changes	6	16.2
Cognitive deficiencies	2	5.8
No perception of symptoms	8	21.6
Does not apply	2	5.4

**Table 5.** Coping with symptoms ( $n = 37$  subjects)

Coping strategy	<i>n</i>	% of subjects
Ask for help	17	46.0
Intrapsychic coping	10	27.0
Take extra medication	6	16.2
Behavioral change	3	8.1
Can do nothing	6	16.2
Does not apply (no perception of early symptoms)	10	27.0

**Table 6.** Relationship between personal characteristics, illness-related factors, and coping

Number	Illness		Individual		
	Severity	Duration	Control orientation	Self-concept	Education
Risk factors (subjective vulnerability)	0.09	0.05	0.14	-0.38**	$F(2.34) = 5.01^*$
Preventive strategies	-0.31*	0.39**	0.37*	-0.26	$F(2.34) = 1.64$
Strategies for symptoms	0.23	0.07	-0.18	-0.01	$F(2.33) = 0.42$

Asterisks designate variables where there was a significant relationship between personal characteristics, illness-related factors, and coping; \*  $P \leq 0.05$ ; \*\*  $P \leq 0.01$

thors as an indicator of efficient coping rather than consistently using specific coping reactions across situations (Falkenstein et al. 1983; Becker 1985). We selected duration of illness and severity of illness (operationalised as the quotient between duration and number of hospital admissions) as illness-related variables. There was no significant relationship between the two illness variables and the degree of perceived symptoms (Table 6). However, the more experience patients had with illness (duration), the more strategies were reported to prevent relapse. If the experiences were mainly negative (high relapse rates), fewer strategies were named. The direction of this relationship, whether a small coping repertoire led to more relapses or many relapses discouraged the patient, could only be determined in a prospective study. As to personal variables we confined ourselves to educational level, self-concept, and control orientations about the illness. Patients with a positive self-concept (total score of Frankfurter Selbstkonzeptskalen by Deusinger) perceived themselves as less vulnerable than patients with low self-esteem ( $F(2.34) = 5.01, P < .01$ ). As expected, persons believing that they could control their illness reported more preventive strategies.

## Discussion

The results of our explorative study on experienced vulnerability, relapse risk, and self-administered coping strategies in schizophrenics confirm that the majority of patients perceived a permanent hypersensitivity towards high emotional or aversive cognitive stimuli and, after sufficient duration of the illness, became aware that relapses or smaller changes for the worse may be linked to a basic, high vulnerability towards almost the same stressors. Many patients were able to give very precise accounts of the kind of stressors that, in their view, raised irritability, emotional and cognitive dysfunctions and – according to the experience of the majority of patients – could produce a relapse. These accounts were consistent with findings of objective research on the course of schizophrenia where a heightened sensibility of patients to social emotional and cognitive stressors has been proved (Brown and Birley 1968; Leff et al. 1983; Liberman et al. 1986).

The patients reported behavioral and intrapsychic strategies to prevent relapse. By avoiding stressful conflicts and ensuring structure and regularity of their everyday life they tried to establish a life style measured to their individual vulnerability. On an intrapsychic level, confrontation with the illness and

attempts to integrate it into one's life as well as goal-directed cognitive problem solving played an important role in the coping process. Cognitive problem solving contributed a great deal to the reduction of existential uncertainty which had been reported as one risk factor for relapse, i.e., loss of continuity of social status, housing, finances, and so on.

The abundance of spontaneous reports of coping strategies supports Strauss' notion of the active role of the patient in the healing process. The development of preventive strategies appears to be linked with the former course of illness and also with the subjectively experienced controllability of the illness process. Patients with low self-esteem considered themselves more vulnerable than patients with high self-esteem.

The high proportion of patients reporting the perception of prodromal signs (73%) resembled that of Herz and Melville (1980) and Heinrichs et al. (1985) who found early insight in 70% and 63% of their patients. The latter authors identified early insight as a favorable predictor for the prevention of rehospitalization. The interindividual variability and non-specificity of the prodromal signs was clearly shown in our patients as well as in the Herz and Melville study. The authors had presented chronic schizophrenics with a list of signs and symptoms and asked them to check which symptoms they had experienced first at the beginning of an episode. Comparing our data with their frequency rating of items, the top rankings were vegetative and affective signs (especially restlessness, tension, and dysphoria) as well as slight ideas of reference (feeling that one is being laughed at or talked about).

Comparable results also occurred regarding coping with schizophrenic symptoms. In the present study and in that of Herz and Melville approximately half of the subjects reported asking for help when noticing early symptoms; 16 of our patients but only 4 of the Herz and Melville cases had agreed with their psychiatrist to increase medication in the case of prodromi or early symptoms. Whether this difference is due to differing treatment concepts cannot be answered here. No results were given on intrapsychic coping which may be explained by variations in interview technique. However, the cognitive strategies described by Falloon and Talbot (1981) in patients with auditory hallucinations were very similar to our intrapsychic strategies. The authors discriminated four kinds of strategies with reduced attention as the most frequent, followed by accepting the voices, then arguing with the voices, and finally suppression of the voices. Similar coping mechanisms were described by Breier and Strauss (1983) under the heading of self-instruction.

## Conclusions

On the whole, the results of our study confirm the applicability of the concept of coping with illness to schizophrenia. Having originally been designed for somatic disorders, the concept needs some adjustment to allow for the characteristics and the complexity of schizophrenia. In accordance with the few other studies conducted so far, early recognition of symptoms appears crucial. Furthermore, the direct perception of vulnerability in the healthy intervals and the indirect experience of vulnerability in connection with the risk of relapse and triggering events is at least as important. Patients with longstanding illness experience seemed to acquire an elaborate knowledge of their sensitivity towards risk situations and to develop control strategies at a very early stage before the outbreak of a new psychotic episode.

The difficulty in discriminating between acute psychotic symptoms, so-called basic disorders, signs of defect (negative symptoms), and true coping reactions has already been dealt with by Lange (1981). When a patient suddenly stops talking, this blocking might constitute a symptom for the psychopathologist. The patient himself might explain that he stopped talking deliberately in order to reorganize his thoughts before continuing his speech, in which case his behavior would be considered as a coping strategy. According to Lange, a discrimination might not always be possible or even necessary as the disorder and the attempt at coping with it are closely intertwined. As a first step towards a solution of this definitory problem he suggested an approach from the patient's subjective experience. This is what we attempted in our explorative study. By asking for the subject's point of view, we were able to confirm our earlier notion (Häfner 1976) of the possibly multiple determination of the withdrawal behavior shown by many patients. The same behavior can thus have diverse etiologies in different patients. What from the clinician's point of view is often simply classified as a negative symptom was described by some patients as a conscious protective effort against overstimulation, possibly a strategy of moderating vulnerability, by others it was experienced as a subjective loss of initiative which they tried to counteract.

Our model of coping with schizophrenia implies that different adaptational demands depend on the constellation of illness-related, personal, and environmental variables. Further research should therefore differentiate between adaptational demands when investigating coping reactions i.e., coping with so-called basic disorders, coping with positive or negative symptoms, as well as coping with vocational and social consequences of the illness. Ac-

cording to Lazarus' coping model, it also seems advisable to follow the coping process for a longer period of time as the kind of adaptational demands change at different stages of the illness, depending on the respective outcomes in terms of symptomatology, relapse rate, psychological and social functioning. Closely related and especially relevant for the therapeutic support of coping and prevention of relapse is the question of the efficacy of specific coping responses. Further research is therefore needed to find out which adaptive demands can best be dealt with by which coping mechanisms.

For clinical and therapeutic work with schizophrenics there are several implications. Besides neuroleptic maintenance therapy, the improvement of the patient's self-perception of vulnerability can constitute an important contribution towards the prevention of relapse. However, information and instruction on the general risks of relapse are not sufficient. Furthermore the patient should be encouraged to observe his reactions to specific, mainly idiosyncratic stressors. In a second step, the patient's present repertoire of habitual coping reactions, often acquired by trial and error learning, can be explored and reinforced, and, where necessary, new coping strategies can be developed and practised.

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